

**REMARKS**

Claims 19, 21 and 23-26 are pending in this application. By this Amendment, claims 19, 21 and 24 are amended, and claim 22 is canceled without prejudice to or disclaimer of the subject matter recited therein. No new matter is added. Reconsideration in view of the foregoing amendments and the following remarks is respectfully requested.

Entry of the amendments is proper under 37 CFR §1.116 since the amendments: (a) place the application in condition for allowance for the reasons discussed herein; (b) do not raise any new issue requiring further search and/or consideration as the amendments amplify issues previously discussed throughout prosecution; (c) satisfy a requirement of form asserted in the previous Office Action; and (d) place the application in better form for appeal, should an appeal be necessary. The amendments are necessary and were not earlier presented because they are made in response to arguments raised in the final rejection. Entry of the amendments is thus respectfully requested.

The Office Action rejects claims 19, 21 and 23-26 under 35 U.S.C. §102(a) over JP2002-009393 to Otoma et al. (Otoma). This rejection is respectfully traversed.

Claim 19 is amended to incorporate the feature similar to that was recited in canceled claim 22, which was not rejected under this rejection. Therefore, claim 19 is patentably distinct from the applied reference.

Claims 20, 21 and 23-26 are allowable at least for their dependence on claim 19, as well as for the additional features they recite.

As such, withdrawal of the rejection is respectfully requested.

The Office Action rejects claim 22 under 35 U.S.C. §103(a) over Otoma in view of U.S. Patent No. 5,945,690 to Saito et al. (Saito). This rejection is respectfully traversed.

As discussed above, claim 22 is canceled, and the subject matter similar to that recited in canceled claim 22 is incorporated to claim 19. Therefore, claim 19 recites, *inter alia*,

surface roughness of the compound semiconductor layer after formation of the electrode is not more than 5 nm. As discussed in the specification at, for example, page 23, lines 15-26, the roughness is set not more than 5nm because the surface of the compound semiconductor layers is not etched by the solution such as alkali developer. In case the aperture or opening is formed in the photoresist layer using the alkali developer, as done conventionally, the surface of the compound semiconductor layer is etched, which generally causes depths over 5nm. Consequently, the surface emitting semiconductor laser according to the application makes the surface roughness to be planer than that of the prior art, which prevents the degradation or aggravation of the performances and optical properties of the surface emitting semiconductor laser.

The Office Action admits that Otoma does not teach or suggest this feature but alleges that Saito does.

However, Saito merely measures the roughness of the GaAs layer in order to indirectly evaluate a lattice defect or composition change of the underlying layer. That is, the roughness of the GaAs layer is the roughness at the stage of crystal growth by MOVPE and is not the roughness of the compound semiconductor layer after the formation of the electrode. Therefore, Saito does not teach or suggest this feature of claim 19.

Moreover, Saito does not recognize the above discussed problems and advantages. The discovery of the source of a problem is a part of the "subject matter as a whole" to be considered in determining obviousness. In re Spinnoble, 160 USPQ 237 (CCPA 1969).

As such, claim 19 is patentably distinct from the applied references. Therefore, withdrawal of the rejection is requested.

The Office Action rejects claims 19, 21, and 23-26 under 35 U.S.C. §103(a) over U.S. Patent Application Publication No. U.S. 2002/0110169 to Iwai et al. (Iwai) in view of U.S. Patent No. 5,563,422 to Nakamura et al. (Nakamura). This rejection is respectfully traversed.

As discussed above, claim 19 is amended to incorporate the feature similar to that was recited in canceled claim 22, which was not rejected under this rejection. Therefore, claim 19 is patentably distinct from the applied references.

Claims 21 and 23-26 are allowable at least for their dependence on claim 19, as well as for the additional features they recite.

As such, withdrawal of the rejection is respectfully requested.

The Office Action rejects claim 22 under 35 U.S.C. §103(a) over Imai and Nakamura, in view of Saito. This rejection is respectfully traversed.


As discussed above, claim 22 is canceled, and the subject matter similar to that recited in canceled claim 22 is incorporated to claim 19.

The Office Action admits that Iwai and Nakamura do not teach or suggest this feature but alleges that Saito does. However, as discussed above, Saito does not teach or suggest this feature. Accordingly, claim 19 is patentably distinct from the applied references. Withdrawal of the rejection is respectfully requested.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 19-21 and 23-26 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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